

## CLAIMS

What is claimed is:

1. A method of conducting a sequence of linked simulation operations utilizing a computer-based model, the method including:

performing a first simulation operation utilizing the model to generate an output condition; and

performing a plurality of further simulation operations utilizing the model, wherein each of the plurality of further simulation operations, at least partially and automatically, inherits the output condition generated by the first simulation operation as an input condition,

wherein at least one of the plurality of further simulation operations utilizes a delta condition in conjunction with the output condition of the first simulation operation as the input condition.

2. The method of claim 1 including presenting a model operator with a choice of performing at least one of the plurality of further simulation operations utilizing the delta condition in conjunction with a subset of the output condition as the input condition, and performing the at least one of the plurality of further simulation operations utilizing only the output condition as the input condition.

3. A method of conducting sequential simulation operations utilizing a computer-based system model, the method including:

performing a first simulation operation utilizing the system model to generate a first set of values for a set of model parameters;

attributing a delta value to at least a first model parameter of the set of model parameters, and maintaining at least an inherited value from the first set of values for a second model parameter to thereby generate a second set of values for the set of model parameters; and

performing a second simulation operation utilizing the system model and the second set of values as an input condition.

4. The method of claim 3 wherein the first model parameter is a time-invariant parameter for which a value remains constant during a simulation operation.
5. The method of claim 3 wherein the first model variable is a time-varying variable for which a value varies during a simulation operation in accordance with specifications of the system model.
6. The method of claim 3 including attributing at least a further delta value to at least the first model parameter of the set of model parameters and maintaining the inherited value from the first set of values for the second model parameter to thereby generate a third set of values for the set of model parameters, and performing a third simulation operation utilizing the system model and the third set of values as a further input condition.
7. The method of claim 3 including attributing a first group of delta values to a first group of model parameters, and maintaining a first group of inherited values for a second group of model parameters to thereby generate the second set of parameters values for the set of model parameters.
8. The method of claim 7 including attributing a second group of delta values to a third group of model parameters and maintaining a second group of inherited values for a fourth group of model parameters to thereby generate a third set of parameter values for the set of model parameters.

9. The method of claim 3 wherein the first and second simulation operations are performed sequentially as a continuous simulation exercise.

10. The method of claim 9 wherein the delta value is automatically attributed to the first model parameter of the set of model parameters after the expiration of a specified time period and before conclusion of the continuous simulation exercise.

11. The method of claim 3 wherein the first simulation operation simulates operation of a system represented by the system model for a specified time period.

12. The method of claim 11 including facilitating specification by a model operator of the specified time point at the end of which the first set of values for the set of model parameters are generated by the system model, where the specified time point is less than or equal to the specified time period for the first simulation operation.

13. The method of claim 3 wherein the first simulation operation simulates operation of a system represented by the system model for a specified event sequence.

14. The method of claim 3 wherein respective model conditions vary between the first and second simulation operations.

15. The method of claim 14 wherein a level of influence of a first model condition is varied between the first and second simulation operations.

16. The method of claim 14 wherein the first model condition is present within the first simulation operation and is absent within the second simulation operation.

17. The method of claim 15 wherein the first model condition is absent within the first simulation operation and is present within the second simulation operation.

18. The method of claim 14 wherein the model conditions are determined by values attributed to the set of model parameters.

19. A user interface for specifying a sequence of linked simulation operations performed by a computer-based model, the user interface comprising:

a first interface portion to present a plurality of simulation operations; and

a second interface portion to allow user-specification of a sequence for conducting of the plurality of simulation operations presented within a first interface portion, wherein at least one simulation operation of the sequence, at least partially and automatically, inherits an output condition generated by a preceding simulation operation within the sequence as an input condition.

20. The user interface of claim 19 wherein the second interface portion identifies parameters and parameter values associated with each of the simulation operations included within the sequence.

21. The user interface of claim 20 wherein the second interface portion allows a model operator to modify the parameters and parameter values associated with each simulation operation included within the sequence.

22. A computer-based system for conducting a sequence of linked simulation operations, the system including:

a simulation engine to perform first and second simulation operations; and

a sequence generator to identify the first and second simulation operations as being sequenced and automatically to generate an input condition for the second simulation operation that at least partially inherits an output condition of the first simulation operation,

wherein the second simulation operation specifies a delta condition and wherein the sequence generator generates the input condition for the second experiment utilizing both the delta condition and the output condition of the first experiment.

23. A machine-readable medium storing a sequence of instructions that, when executed by a machine, cause the machine to perform the steps of:

performing a first simulation operation utilizing the model to generate an output condition; and

performing a plurality of further simulation operations utilizing the model, wherein each of the plurality of further simulation operations, at least partially and automatically, inherits the output condition generated by the first simulation operation as an input condition,

wherein at least one of the plurality of further simulation operations utilizes a delta condition in conjunction with the output condition of the first simulation operation as the input condition.

24. A method of generating a graphical plot for values of a parameter of a computer-based model, the method including:

performing a first simulation operation utilizing the model to generate a first set of values for the parameter;

performing a second simulation operation utilizing the model to generate a second set of values for the parameter, wherein the second simulation operation at least partially inherits an output condition of the first simulation operation as an input condition; and

generating a graphical plot on a display device associated with a computer system, the graphical plot plotting the first and second sets of values for the parameter as an integrated plot.

25. The method of claim 24 including performing a third simulation operation utilizing the model to generate a third set of values for the parameter, wherein the third simulation operation at least partially inherits the output condition of the first simulation operation as an input condition, and generating the graphical plot to plot the first, second and third sets of values for the parameter.

26. The method of claim 25 wherein the first, second and third sets of values for the parameter are plotted against time, and the output condition of the first simulation operation that is at least partially inherited by the third simulation operation as an input condition is determined at a different time from when the output condition that the second simulation operation at least partially inherits as an input condition is determined.